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## THE ROLE OF UP-TO-DATE TEACHING TECHNOLOGIES IN LEARNING PHTHISIOLOGY TIMELY QUESTIONS UNDER CONDITIONS OF PROSPECTIVE ORGANIZATION OF THE HEALTH CARE INDUSTRY

**Keywords:** *phthisiatry, modern technology, distant learning, evidence-based medicine, reorganization.*

**Abstract.** *Educational process is upgraded: implementation and widely used innovative technology, up-dated techniques of training, including distant forms are carried out at the Department of Tuberculosis and Pulmonology of Bukovyna State Medical University. Dynamic provision of pedagogical process with new information technologies, systematic renewal and replenishment of materials, publishing activities promote constant improvement of the educational process as well as increase of students interest in discipline and tuberculosis problems. All those have a positive effect on the prospect of further professional orientation of future doctors, and allow to improve the quality of education, competitiveness and mobility of graduates.*

Nowadays we are facing the change of our ideas about the systemic principless and approach to struggle against tuberculosis (TB) as far as the elaborated conception of medical stuff training in accordance with requirements of the World Federation of medical education and basic principles of Bologna' process has been launched in Ukraine [2,8,16]. Bukovyna State Medical University is actively involved in the Ukrainian integration into the European Union: adapting world standards of many aspects of medical activity, including Phthisiatry. The educational process is constantly being upgraded. Innovative technology, up-dated techniques of training, including distant forms are being implemented and widely used. That has a positive effect on the prospect of further professional orientation of future doctors, and allows to improve the quality of education, competitiveness and mobility of graduates [4].

Phthisiology is keeping abreast with the time. It should be noted that the most vulnerable to infection with Mycobacterium tuberculosis are people aged 20 to 49 years - the bulk of the working population, that is the base of country economic potential [1]. A relevant regulatory and legal framework the implementation of which enables a significant impact on the epidemic process, greatly reducing its intensity in our country has been created in Ukraine. Mechanisms of realization of the state policy in Fighting Tuberculosis are directed to execution of the law of Ukraine № 4565-17 of 22.03.2012 "On

Amending the Law of Ukraine" On Combating against TB," under which the "National Target Social Programme to Combat TB up to 2012-2016 " was approved. In pursuance of the article 6 of the Law of Ukraine "About the TB disease control" and industry standardization program of medical assistance for 2020 "The unified clinical protocol of primary, secondary (specialized) and) and tertiary (highly specialized) medical care has been developed and introduced into practice. Tuberculosis", has been designed and implemented and recommended into practical medicine and the training process as the source of evidence-based information about the best medical practice. The Protocol is considered to be a major medical and technological document that should guide medical professionals in any given clinical situation, avoiding unefficient and wrong decisions, choosing the best for patients intervention. The Department of Tuberculosis and Pulmonology of Bukovyna State Medical University is actively implementing the latest achievements in Phthisiology and seeks to use the most advanced technology in accordance with contemporary standards.

The introduction of the new protocol to the postgraduate stage of education should be a significant help not only for TB specialties but general practitioners who are involved in medical care of TB patients because the document is intended for various stages of treatment. The Protocol guides the physician in cases with preserved Mycobacterium tuberculosis sensitivity to chemotherapy,

chemo-resistant and multi-resistant tuberculosis, when the disease is stable to the majority of proposed means and methods of treatment whether in the cases of Tuberculosis and AIDS Co-Morbidity.

Thus, new challenges, such as steady growth in the number of patients with chemo-resistant and in particular multi-resistant (MRTB) and Co-Morbid HIV TB cases and TB / HIV and viral hepatitis [17,18,20] require inclusion in the teaching of medical students and physicians new TB sections, as well as increasing the volume of presented material to improve knowledge and skills in qualitative diagnosis of lung diseases.

Extrapulmonary tuberculosis of bones and joints [17] is also actual problem. That is why TB lesions of the jaw should be given emphasis in teaching discipline of Phthisiology at the Faculty of Dentistry.

Quality of education is especially important due to rapid progress of science and technology nowadays/. Innovative technology and interactive teaching provide possibility of improvement in this field of activity [10,12].

An interactive teaching is a special form of organization of the educational process at school because it makes the process of learning more productive due to introduction of new technologies which contribute to the more efficient absorption of the material,

Introducing new methods and forms of organization of the educational process, the department pays special attention to students' individual work. Individual work is performed according to a task and at the methodological guidance of a teacher, but without his direct involvement, and requires a significant number of additional and particularly illustrative materials [9,13]. Individual work is directed to develop medical thinking and practical skills. A student is taught to think critically, to solve problems on the bases of analyzing relevant information, to take considered decisions.

Clinical cases, sets of radiographs, standard care histories, methodical developments and guidance have been created for each theme of practical classes. Samples of medical record, instruments, et al have been prepared. The bank of training videos, wide application of which simplifies and improves the quality of mastering material by both Ukrainian and particularly English-speaking students, has been established at the Department of Tuberculosis and Pulmonology.

Educational branch, as well as medical education in particular, having stood on the path of radical reforms and entry the European educational space demands to adapt (needs to bring) all its components with generally accepted international standards.

Bukovyna State Medical University is also expanding its capacity by switching to education of international students in the English language. Every year this process develops in dynamics. Thanks to modern means of communication (e-mail, Internet) potential applicants can get to know the conditions of admission to our university, the curricula of various departments, including the Department of Tuberculosis and Pulmonology. The course of studying for English-speaking students is conducted according to the credit system, which contributes to the implementation of the Bologna Declaration and basic points for diagnosis, treatment and prevention of tuberculosis are coordinated with the principals of the Global Fund to Fight TB, and the "Stop TB" strategy [3,5,7].

Analysis of the literature showed [14] that at present the most radical changes were in such sections of tuberculosis as prevention and diagnosis. Unfortunately, despite the fact that TB is a worldwide problem, this disease is currently "unpopular" because it mainly affects vulnerable population, that is why anti-epidemic measures are financed by public funds in most countries of the world. Nearly identical approaches to identify patients, diagnosis, treatment and prevention of TB all over the world are used today. Focusing on finding the most efficient and reasonable way of overcoming the TB epidemic, the doctrine about tuberculosis a socially substantiated more often appeals to issues of public health, taking care not only of the timely diagnosis and treatment, but also of the ultimate effectiveness of the measures - limiting the spread of infection and reduction of the cost of medical services.

Study of molecular and genetic aspects of *Mycobacterium tuberculosis* [20] creates prerequisites for the use of the latest technologies as to the development of new vaccines, which would provide protection against infection and TB development.

Now several types of vaccines are under development indicating that the issue of specific TB prophylaxis is gradually moving towards its goal.

Multimodality treatment of patients with tuberculosis is the basis of WHO program and national to program. There can not be an effective TB control, if you have no an effective TB treatment. In poor treatment sources of infection increase twice that is why treatment - is the basis of prevention of this disease and eradication of the source of infection as a whole. In early TB diagnosis and treatment the number of patients with the disease is reduced by 80% [1,19]. The problems of finding new antimycobacterial drugs, especially for treatment of MDR TB remains one of the most urgent [14]. New

combinations of TB drugs are under a series of clinical trials. Department of Tuberculosis and Pulmonology together with the Department of Medical and Pharmaceutical Chemistry of Bukovyna State Medical University is actively involved in this process and working in the direction of the pertaining to research to study the effectiveness of newly synthesized heterocyclic compounds of imidazole derivatives and their effect on Mycobacterium tuberculosis.

It should be noted that new approaches to TB diagnosis quickly and effectively develop and are promptly implemented to the learning process. Molecular genetic and microbiological technologies make it possible for a short time not only to reveal the pathogen, but identify its sensitivity to the most effective anti-TB drugs [1].

Thus, the TB epidemic, which in most countries, as well as Ukraine, enters a stage of stabilization, motivated to intensification of research and changes in the curricula both undergraduate and postgraduate stages of education.

The dynamic provision of teaching process with new information technologies, systematic renewal and replenishment of the materials, including posters and tests, comprehensive publishing activity promote not only continuous improvement of the quality of the educational process, but also increase students' interest in the subject of tuberculosis and problems of phthisiology, which positively effects on the prospects for further orientation of future physicians and improves the quality of education, competitiveness and mobility of graduates.

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#### РОЛЬ СУЧАСНОЇ МЕТОДОЛОГІЇ ВИКЛАДАННЯ ФТИЗІАТРІЇ ЗА УМОВ ПЕРСПЕКТИВНОГО РЕФОРМУВАННЯ МЕДИЧНОЇ ГАЛУЗІ

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**Резюме.** На кафедрі фтизіатрії та пульмонології Буковинського державного медичного університету активно модернізується навчальний процес, впроваджуються і широко застосовуються інноваційні технології та сучасні методичні прийоми навчання, у тому числі і дистанційні його форми. Динамічне забезпечення педагогічного процесу новітніми інформаційними технологіями, систематичне оновлення та поповнення матеріалів, всебічна видавнича діяльність сприяють не тільки постійному підвищенню якості навчального процесу, але й зростанню зацікавленості студентів предметом і проблемами фтизіатрії, що позитивно впливає на перспективу подальшої професійної орієнтації майбутніх лікарів, дозволить підвищити якість освіти, конкурентноспроможність та мобільність випускників закладу.

**Ключові слова:** фтизіатрія, сучасні технології, дистанційне навчання, доказова медицина, реорганізація.

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